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The seventh complete (? see Nos. 14 and 16, above), last and ninth edition of the text of Audubon's 'Birds.'

Sets of this issue, but without plates (and also bearing no date) were apparently circulated to some extent; at least one, answering to this description, was offered for sale in New York in January of this year.

SOME SUMMER BIRDS OF LIBERTY COUNTY, GEORGIA.

BY W. J. ERICHSEN.

To so thoroughly investigate the summer bird life of any selected area as to leave but slight room for belief that additional species, unsuspected of breeding in the area, would ever be subsequently discovered, would require continuous field work extending over a period of several years; therefore the present paper, based on notes made by the writer during a ten months' residence, from January 3 to November 1, 1913, at Allenhurst, Liberty County, Georgia, can in no wise be considered as being more than a brief review of the more common and characteristic breeding birds of the county. It is rather a preliminary list, intended for further elaboration by, and as information for, future workers in the field which it covers, and for the use of anyone who may be contemplating the compilation of a complete list of the birds of the state, to both of whom it may, I hope, prove of some value. Very little has been put into print respecting the avifauna of the coast region, or indeed of any part of the state of Georgia, and anything pertaining thereto, however meagre and of a local character, is a welcome addition to our knowledge of the state's bird life. It is with this realization that ornithological literature is almost destitute of

references to the birds of Georgia, that I contribute these few notes. There has recently come to my notice an article by H. B. Bailey in the 'Bulletin of the Nuttall Ornithological Club,' Vol. 8, January, 1883, consisting of notes on a collection of eggs made in McIntosh and Wayne counties, Georgia, by Dr. S. W. Wilson. These counties adjoin Liberty County on the south and southwest respectively, and each presents a topography differing but little from that of that county. Dr. Wilson evidently made some errors in identification and also in his notes relating to nesting sites selected and material used in nest construction by several of the species he met with.

The avifauna of Liberty County is unusually varied and abundant, particularly as regards the water birds, and it is with regret that my short residence there would not permit of my securing sufficient notes on which to base a more complete list, including migrants and winter visitants.

Weather conditions were favorable almost the entire spring and summer, admitting of nearly continuous field work which obviously has a considerable advantage over desultory observations where much work is to be done in a single nesting season.

It may be well to make a few general remarks on the topography of the region under consideration and give some points of information in regard to the conditions affecting the distribution of summer bird life within the county. Although primarily intended as an exposition of some of the breeding species, it may not be out of place to add a few remarks on its bird life in general. With a combination of favorable topographical features the avifauna of the county is, as before stated, rich in species; the coast line of approximately ten miles attracting numerous water birds, while the swamps, uplands, cultivated lands and pine barrens, the latter mostly free from undergrowth, all present conditions suitable for many species of land birds. The region covered by this paper also includes St. Catherine's Island, a large sea island, which presents topographical features differing in no essential particulars from those of the mainland. This island and its surrounding waters are favorite resorts for large numbers of Ducks, Shorebirds, Herons, Gulls and Terns, as well as for many species of the smaller land birds.

As references in the list will show, most of my field work was done within a five mile radius of the town of Allenhurst, near the geographical center of the county, excursions being made however to all other points of the region at frequent intervals, particularly to the coast, where several interesting finds were made.

The region under consideration, in area the third largest county in Georgia, is a succession of swamps, rolling uplands, pine barrens, scrub oak woodland and abandoned rice plantations, which latter are particularly attractive to many species of marsh loving birds, such as various species of the *Rallidae*, Blackbirds, Grackles, as well as many of the smaller swamp loving species. There is an absence of large heavily timbered areas in the county, due to the extensive operations of the large lumber plant located at Allenhurst, although many smaller patches of fairly heavily timbered land still remain, particularly near the coast.

Short leaf pine, ash, hickory, cypress, red and black gum, tupelo and various species of oak form the major portion of the forests, while large areas of more or less thickly matted and tangled undergrowth are scattered all over the county, forming agreeable retreats for birds. Other forest trees found in more or less abundance include yellow poplar, sassafras, wild cherry, bay, laurel, red maple, red cedar, holly and palmetto, the latter three being particularly numerous on St. Catherine's Island. Spanish bayonet thickets are almost a feature in the landscape in the vicinity of the coast and on the islands.

Altamaha River is the largest in Liberty County, and separates it from Wayne County on the southwest. The swamps on both sides of this river are almost impenetrable, worthy rivals of the famous Okefinokee Swamp in southeast Georgia, and harbor rookeries of the Louisiana, Little Blue and Green Herons, and are the breeding place of several other species. Lack of time prevented me from doing much work here. The Canoochee to the north, a medium sized river, forms a part of the boundary line between Liberty and Bryan Counties, while the North and South Newport Rivers, in the southeastern section of the county, complete the list of principal streams. Beard's Creek, a small branch emptying into the Altamaha, flows through the extreme eastern part of the county. Taking into consideration St. Catherine's Sound, which extends

some distance westward between Bryan and Liberty Counties, we find that the latter is almost completely surrounded by bodies of water varying in size from the broad ocean to a small creek. Besides this, numerous small creeks traverse the interior, and several ponds, caused chiefly by the overflow from the abandoned rice fields, dot the county, particularly that section immediately bordering the Altamaha River. In years past this was one of the largest rice producing sections on the South Atlantic coast, but little evidence of this now remains, the once symmetrical network of irrigation canals now being but a labyrinth of canoe trails used by gunners.

But a small portion of the county is under cultivation, the large areas of low swampy ground, covered much of the time with water, together with the abandoned rice fields, unfit for any other use, forbid any very extensive diversified farming.

One of the most interesting experiences of my residence in the county was the noting of many wild turkeys in the swamps, Liberty County being probably one of the last strongholds of this species on the coast of Georgia.

Although so far as I know I was the only one in Allenhurst interested in bird study, I am indebted to many residents of the place for courtesies extended, particularly to the Dunlevie Lumber Company, on whose motor car many trips were made out the tram road to points of interest which were accessible for hurried visits only by this means of transportation.

It might be well to state here that expressions of the degrees of abundance of individuals in the county refer only to the occurrence of the species during the nesting season of the period of my residence. Many of my notes were written during my residence in Liberty County and were intended for early publication, and I have allowed them to stand unaltered, with the exception of some few additions and omissions.

1. **Anhinga anhinga.** WATER TURKEY.—On May 11, I located a nest of the Water Turkey containing four eggs. It was built in a small willow, growing in two feet of water near the margin of a large rice field reservoir, and was placed about four feet above the surface of the water, being composed of a few sticks loosely laid together. There are many suitable nesting places among the abandoned rice plantations, and the

presence there of many of these birds throughout the summer can be accepted as conclusive evidence that the Water Turkey breeds abundantly.

2. **Hydranassa tricolor ruficollis.** LOUISIANA HERON.

3. **Florida caerulea.** LITTLE BLUE HERON.

4. **Butorides virescens virescens.** GREEN HERON.—On April 28 I paid a visit to a rookery containing several nests of the Louisiana Heron besides many of the Little Blue and Green Herons. The nests of the two former species were all placed at such heights that, lacking the necessary equipment with which to make ascents, I was unable to examine their contents. There is little doubt, however, but that many of the nests contained full complements of eggs at this date, as the birds were continually flying to and from them. The majority of the nests of the Green Heron were placed at low altitudes, mainly from four to twelve feet above the water which covered the swamp, and were easy of access. Of twelve nests examined, nine contained four eggs each, and the remaining three held three eggs each.

Although the Green Heron must nest at many other localities in the county, these were the only nests that came under my observation. As for the Little Blue and Louisiana Herons, it is doubtful or extremely improbable that any other colonies exist in the county, as personal efforts as well as those of several correspondents failed to discover any.

This rookery is situated in a remote part of the Altamaha swamp near the McIntosh county line, and is probably known to but few persons. The majority of the trees are cypresses of large size, with a few isolated gums and willows on the outskirts. To my regret I was unable to pay a second visit to this interesting place.

Since the above was written, I have been informed that a colony of American Egrets and Snowy Herons exists in the Altamaha river swamp near where the Seaboard Air Line Railway bridge crosses that river.

5. **Rallus elegans.** KING RAIL.—On April 20, quite by accident, I stumbled upon a nest of the King Rail containing six eggs. On the afternoon of the 25th, I returned to the nest which then held eleven eggs, showing that the female had deposited an egg every day. The nest was placed fourteen inches above water, in rushes growing in an abandoned rice plantation, and was composed of the stalks and leaves of cattail flags. Additional field work would undoubtedly prove the King Rail to be a common breeder in the county.

6. **Rallus crepitans waynei.** WAYNE'S CLAPPER RAIL.—This rail is confined exclusively to salt water marshes and is abundant. The marshes bordering the mainland and inland islands north of St. Catherine's island are their favorite resorts, although they are found more or less abundantly in all of the salt marshes bordering the rivers and creeks that go to make up the extensive inland waterway of Liberty county. A nest found May 9 contained eleven eggs. On July 19 I noted a nest containing seven eggs. These nests were composed of the blades and stems of the marsh grass and were placed in the marsh just above high water mark.

These birds evidently have not learned of the danger from unusually high spring tides, as when these occur, many of their nests which are placed out of reach of normal tides, are destroyed.

7. **Catoptrophorus s. semipalmatus.** WILLET.—The Willet breeds in much the same situations as the Wilson's Plover, except that perhaps the former shows a more decided preference for the high grassy stretches well back from the beach. A few grass stems are laid in a depression made by the birds, usually at the base of a bunch of grass or weeds. Oftentimes no material is used, the eggs being deposited in a bare hole scooped out by the birds.

Two nests were located by me on July 19 among high grass well back from the beach on St. Catherine's island. Both held four eggs. Incubation was evidently advanced at this late date.

Willetts show much concern when their breeding grounds are invaded, flying overhead and emitting shrill cries until the intruder has withdrawn.

8. **Ochthodromus wilsonius.** WILSON'S PLOVER.—The Wilson's Plover is a characteristic bird of the beaches and mud flats and is abundant on St. Catherine's island. The birds appear to prefer as nesting sites, isolated beaches bordering on sounds and inlets where there are numerous tussocks of grass and an abundance of small shells among which they lay their eggs. Three eggs are laid in a hole scooped out in the sand, usually among short beach grass and on slight elevations formed by drifting sand. Although the birds breed abundantly on the island, my visit there was made on July 19 near the end of the breeding season, and I located but two sets of eggs.

9. **Chæmepelia passerina terrestris.** GROUND DOVE.—The Ground Dove is locally distributed in the county, and but two nests came under my observation. On May 1 I located a nest containing two fresh eggs, and on May 13 a second nest was found which also contained two eggs. The former was situated three feet up in a scrub oak, while the nest found May 13 was nine feet from the ground on a horizontal limb of a large pine and some distance from the trunk of the tree. Both nests were composed merely of a few twigs and dead pine needles, almost falling apart at the touch.

The Ground Dove shows a decided preference for scrubby pastures, and woodland where there is much undergrowth, and, like the Bob-white, does not wander far from the locality in which it was hatched. Many Ground Doves nest on the ground, and use even less material in such cases than when placed in trees or bushes.

I have been informed that eggs of this bird have been collected outside but near Liberty county in every month from March to October inclusive, a remarkably long nesting period.

10. **Haliaeetus leucocephalus leucocephalus.** BALD EAGLE.—On January 9 I flushed a Bald Eagle from a nest on St. Catherine's island, but was unable to ascertain its contents. It was built in a large short leaf pine, approximately eighty-five feet from the ground, and was of massive

proportions, evidently having served as a home for the birds for a number of years. I was told that several pairs of these birds bred on the island, but I was unable to pay a visit to their nests.

11. **Pandion haliaetus carolinensis**. OSPREY.—Fish Hawks are numerous on St. Catherine's island and I am told that at least ten pairs regularly nest on the island. A nest on the south end was occupied at the time of my visit on May 4. The birds return to the same nest year after year, adding material each season, until the structure becomes of large size.

12. **Coccyzus americanus americanus**. YELLOW-BILLED CUCKOO.—Locally known as the 'Rain Crow,' this bird is moderately common in the county. On May 17, near old Midway church, I found a nest seven feet from the ground on a horizontal limb of a live oak, well out from the trunk of the tree. The nest was the usual frail platform of twigs characteristic of this species and contained three young.

In its choice of nesting sites, the Yellow-billed Cuckoo shows no preference for any species of tree or character of woodland, but as a rule, although not invariably, it selects a horizontal limb.

13. **Melanerpes erythrocephalus**. RED-HEADED WOODPECKER.—Although not as abundant as the Flicker, the Red-headed Woodpecker nests in much the same situations as the former species, but as a rule, excavates its hole at a greater height than the Flicker. A nest noted May 28 at a height of twenty-eight feet contained five eggs. A subsequent visit to the nest disclosed the fact that the tree had been felled by the wind, breaking the eggs and killing the sitting bird.

14. **Colaptes auratus auratus**. FLICKER.—Liberty county contains large areas of cut over lands with many stumps and dead trees, a condition favorable to the increase of the Flicker. The birds are as a result very abundant, nesting in close proximity to houses and as often in the woods far from dwellings. Although several birds were noted entering and leaving their nesting holes, I examined but one of the latter. This was ten feet from the ground in a telegraph pole opposite the depot at Allenhurst, and contained six fresh eggs on May 6.

15. **Antrostomus carolinensis**. CHUCK-WILL'S WIDOW.—This interesting bird is abundant in the county, particularly on St. Catherine's island and adjoining hammocks. It inhabits thick dry woods where the sun seldom penetrates the heavy foliage during the summer months. At least a month elapses after arrival of the birds before the eggs are laid, and from observations made by me in Liberty and nearby counties, covering a period of six years, I am convinced that but a single brood is raised. Their two eggs are laid on the ground, usually on or among dry leaves, and are, contrary to popular belief, unusually conspicuous in their setting.

The Chuck-will's Widow flushes when the intruder is yet some distance away, and rises with a guttural squawk, to my ears unlike any other sound in nature. It is eminently crepuscular in habits, but when flushed during the daytime flies with ease and rapidity through the maze of trees until lost to view.

To test the truth of the report that these birds remove their eggs a short distance when touched, I purposely handled every one of the four sets found, being careful to mark the exact spot where they lay, but on returning to the eggs, I found every one in the spot where I had left it, none having been moved so much as an inch. I have made this test repeatedly in several other localities on the coast of Georgia, but always with the same result.

Eggs were found on May 3, May 13 (two sets), and May 26, all in the immediate vicinity of Allenhurst.

16. **Tyrannus tyrannus.** KINGBIRD.—Not an uncommon species, but rather locally distributed. It shows a strong attachment to the vicinity of farmhouses, and often ventures to nest in the shade trees in the towns. On May 22, I noted a nest containing four eggs. It was placed fourteen feet from the ground in a China-berry tree growing in the yard at the rear of the hotel at Allenhurst. This nest was later destroyed by the wind, but the birds rebuilt in the same tree and not over five feet from the site of the first nest, and were successful in rearing a brood.

17. **Myiarchus crinitus.** CRESTED FLYCATCHER.—This species breeds in large numbers on St. Catherine's island, but appears to be very locally distributed on the mainland, due no doubt to the scarcity of cedars there, as the birds show a strong preference for nesting in these trees, whenever they contain suitable hollows. A nest found May 4 on the island was in a natural cavity of a cedar, nine feet from the ground, and contained five eggs which were unusually heavily marked. An entire cast-off snake skin twenty-two inches in length constituted over half of the nest material.

18. **Cyanocitta cristata cristata.** BLUE JAY.—On June 12 at about dusk, near the town of Walthourville, I noted, at a height of about twenty-five feet, a bulky nest which I suspected was of this species. Wishing to be sure, I loitered around a few minutes, and was rewarded by seeing a Blue Jay settle on the nest. I was unable to examine the contents of the nest, and had no opportunity to revisit it. It was some distance out on a horizontal limb of a live oak. This species is not uncommon in the county, but I failed to discover any additional nests.

19. **Agelaius phoeniceus phoeniceus.** RED-WINGED BLACKBIRD.—A colony of at least twenty-five pairs of these birds were noted nesting in some tall cat-tails growing in and around a fresh water pond located a short distance from Allenhurst. On May 8 nearly every nest contained four eggs, the birds evidently having begun nesting simultaneously. I revisited the pond on May 25, at which date many of the nests contained well fledged young, while additional nests with fresh eggs were noted. The nests were of the usual construction, being composed of the blades and stems of the different species of vegetation growing in the pond. The average heights of the nests were four feet, the lowest and highest being, respectively, 14 inches, and six feet six inches. No other Blackbird colonies of this size were discovered in the county, although scattered pairs of birds were noted nesting among the abandoned rice fields.

20. **Icterus spurius.** ORCHARD ORIOLE.—Two nests of the Orchard Oriole were noted, both placed in shade trees bordering a roadside, an environment to which this species appears to be almost wholly restricted. The first nest, found May 31, contained five well fledged young. On June 4, I located another containing four fresh eggs, undoubtedly a second laying. Both nests were placed in the apex of small sweet gums, at heights of nine and thirteen feet respectively, and were composed of blades of different species of grass woven in when green, but which had faded very much. Thistle-down constituted the linings, with the exception of a few fine hair-like rootlets.

21. **Megaquiscalus major major.** BOAT-TAILED GRACKLE.—This is a characteristic bird of the salt marshes, breeding in large colonies. On May 9 I examined upwards of seventy-five of their nests in the tall marsh bordering the numerous hammocks and islands north of St. Catherine's island. Many nests contained young, but the majority held eggs. Several of the sets were incomplete, but in no case were more than three eggs or young noted in any nest, which number appears to be the full complement. The nests were composed of the blades and stalks of the marsh grass. Mud is largely used in their construction also, which upon hardening renders the nests almost indestructible by the elements, some retaining their original shape and solidity after being exposed for two or three years.

22. **Pipilo erythrophthalmus alleni.** WHITE-EYED TOWHEE.—Although not uncommon in the county, the White-eyed Towhees are very secretive in their nesting habits, often building their nests on or near the ground, and when so placed are very difficult to locate. On May 20 I discovered a pair of these birds building in some dense undergrowth bordering the tram road about a mile distant from Allenhurst. I withdrew a short distance to watch them at their work, in order to learn more of their nesting habits, but although I remained quiet and almost concealed for nearly half an hour, neither one of the birds returned to the nest while I remained in the neighborhood. On June 1 this nest contained three eggs. Continuing to search in the vicinity, I succeeded in finding another, containing three piped eggs. Both nests were placed twelve inches above the ground in gall-berry bushes, and were composed almost entirely of weed stalks and long dry grass blades, the latter material predominating, and lined with rootlets and grass stems.

23. **Cardinalis cardinalis cardinalis.** CARDINAL.—This fine bird is abundantly distributed over the county, nesting in equal abundance in all of the many and varied environments which the county has to offer. As attesting the wide diversity in character of woodland frequented by this species, particularly during the nesting season, I will state that I noted their nests far in the interior of almost impenetrable swamps; in willows growing in water in rice fields, and in high open woods of mixed coniferous and deciduous growth, as well as in bushy pastures and among trees and undergrowth bordering roadsides. April 26 is the earliest date on which I noted fresh eggs. Well fledged young were noted in the nest

July 4. Between and including the two dates mentioned, I found eight nests, six containing three eggs each, and two with young. Sets of more than three eggs are extremely rare, for during these and previous observations elsewhere in Georgia, covering a period of several years, I have never noted a nest containing a larger number than this, and very often but two eggs are laid. The heights at which these nests were placed varied from three to ten feet, averaging about seven feet. They were composed of weed stalks, moss, dead leaves and trash, lined with grass stems, rootlets and pine straw, and were very loosely constructed, this being a characteristic of the nest of this species.

24. **Passerina ciris.** PAINTED BUNTING.—This highly colored bird nests abundantly in the county, frequenting scrub oak woodland, bushy pastures and undergrowth bordering roadsides. The birds are absent entirely from heavily timbered tracts and the interior of swamps, occasionally however, nesting among the low undergrowth bordering the latter. My earliest and latest dates when fresh eggs were found are May 14 and July 19 respectively. Well fledged young were noted in the nest July 25. Between, and including the two dates first mentioned, I located twelve nests of this species which contained eggs, besides several nests in which were young of various stages of growth. Of the twelve nests noted nine held three eggs each, and the remaining contained four each. The majority of the nests were in small gums and scarlet oaks, with an occasional nest in vines and sumach, and were placed at heights ranging from two feet six inches to eleven feet, averaging about six feet. All were composed of leaves and grasses, lined with rootlets and, in several instances, with horsehair. Practically no variation in materials used was noted. This species often nests in festoons of the Spanish moss, and the nests when so placed are difficult to discover.

25. **Piranga rubra rubra.** SUMMER Tanager.—This species breeds abundantly, especially in localities where there are large areas of second growth scrub oak woodland. Although the birds arrive early in April, they do not commence nest building until the latter part of that month, and it is often well into May before full complements of eggs are found. I noted three nests of this species, two of which were placed on the extremity of horizontal limbs of scarlet oaks. These two nests were so close to the ground that by bending the limbs down a few inches, the contents could be easily examined. In striking contrast to the low heights at which these two nests were placed, was one I found on May 13. It was built almost at the extreme end of a horizontal limb of a huge black gum at a height of approximately fifty-five feet, and was inaccessible. The two nests whose contents I was able to examine each contained four eggs. Dates were May 8 and 20. The Summer Red-bird constructs a very shallow and flimsy nest, almost always composed wholly of the bleached stems of the wild pepper plant, which abounds in the south Atlantic states, and in nearly every instance the eggs are visible from the ground through the nest. The three nests noted by me were located in a tract of mixed woods near Allenhurst.

26. **Progne subis subis.** PURPLE MARTIN.—Four colonies were noted in the county, two at Walthourville, one at Hinesville and one near Sunbury, in addition to other colonies which were reported to me. About twelve pairs of birds comprised each colony. Boxes and gourds put up for the purpose were used for nesting.

27. **Lanius ludovicianus ludovicianus.** LOGGERHEAD SHRIKE.—The single nest of this species that I found was placed five feet above the ground in thorny bushes bordering a roadside near McIntosh; it was composed of thorny sticks and twigs, weed stalks and trash, lined with rootlets, and contained four eggs on April 6. This species is very locally distributed in the county, a fact however not at all to be regretted.

28. **Vireosylva olivacea.** RED-EYED VIREO.—On May 21, in a patch of deciduous woods between Walthourville and Allenhurst, I found a nest of this species containing three heavily incubated eggs. It was placed twelve feet from the ground near the end of a horizontal limb of a sweet gum, and directly over a much frequented road. On June 2, in the same piece of woods, I noted a second nest containing three eggs. This was built in a dogwood tree at a height of only five feet. This species constructs a nest of material similar to that used by the White-eyed Vireo, and inhabits much the same character of woodland. Its nest however is, as a rule, much less deeply cupped, and the lining differs in being composed of pine needles and rootlets.

A peculiarity of this species which I have noted both in Liberty county and elsewhere is a habit the birds have of destroying partially completed nests built by them. I once watched a pair remove piece by piece the material from a nearly completed nest, and weave it into another which they had begun a few yards distant. This is a habit of the Red-eyed Vireo which I have not seen mentioned in ornithological literature.

29. **Vireo griseus griseus.** WHITE-EYED VIREO.—Abundantly distributed. The White-eyed Vireo inhabits moderately timbered districts and bushes. It places its nest in the fork near the end of a horizontal branch. Four nests were noted, each containing four eggs. Two were in small sweet gums, four feet from the ground; one in a myrtle bush at a height of ten inches, and one three feet up on a low limb of a large silver leaf maple. They were composed largely of dead cane leaves, interwoven with grape-vine bark, and had numerous small pieces of rotten wood secured to the exterior with spider web. Much of the latter material, interwoven with fine rootlets, was attached to the rim of the nests, being used to secure them to the limb. The linings were composed of fine rootlets and grasses. All of these nests were found on the margin of a small swamp near Allenhurst. Dates: April 22, two nests, April 29 and May 7.

30. **Compsothlypis americana americana.** PARULA WARBLER.—But a single nest of this species came under my observation, although I searched for them many times in the festoons of Spanish moss which hang in profusion from the ancient live oaks at old Midway cemetery and other points near the coast. The nest was placed only six feet from the ground

in a festoon of moss, and was a rather shabby affair composed of the fibres of the moss, and grass stems, lined sparingly with fine dry grasses and rootlets, and held four fresh eggs on May 2. This species, as well as the Yellow-throated Warbler, is dependent altogether on the Spanish moss for nesting sites. I might add that although I searched many times for the nest of the Yellow-throated Warbler in these oaks at Midway, as well as at other places where moss abounds, I was unable to locate a single one.

31. **Dendroica discolor.** PRAIRIE WARBLER.—Although the Prairie Warbler breeds commonly in the scrub oak woodland and bushy pastures in the interior of the county, I located but a single nest. It was placed seven feet from the ground in a cedar in an open pasture, two miles south of Hinesville. It was an unusually handsome specimen of bird architecture, deeply cupped, composed of fine grass stems and plant down, lined with hair, and contained three fresh eggs on May 12, I returned to the nest two days later at which time it held four eggs.

32. **Wilsonia citrina.** HOODED WARBLER.—The Hooded is another species of Wood Warbler whose nesting in the county is recorded in my note book but once. This nest was located on May 4, and contained four eggs well advanced in incubation. It was placed four feet from the ground in canes growing in a dense swamp nine miles from Allenhurst, and within one hundred feet of a tram road over which heavy log trains passed several times daily. The nest was a dainty little home, woven of cane leaves, weed stalks and bark strips, and was lined with fine rootlets, and secured to the cane stalks with caterpillar silk.

33. **Icteria virens virens.** YELLOW-BREASTED CHAT.—The nesting of this secretive bird in the county has fallen under my observation but once, and then only after a hard half hour search in a dense thicket of blackberry briars three miles from Allenhurst, near a road between that town and Hinesville. The nest was a bulky affair, placed three feet up in the briars, and was composed of weed stalks, cane leaves, and several strands of grapevine bark, lined with fine grasses. This nest was found on May 16, and contained four eggs which must have been in an advanced stage of incubation, for on revisiting the nest nine days later it held well-feathered young. The Yellow-breasted Chat is common in the county, and during the months of May and June, I have often observed their amusing aerial acrobatic stunts. After the latter month, the birds become silent, and are extremely shy and rarely observed.

34. **Mimus polyglottos polyglottos.** MOCKINGBIRD.—The Mockingbird breeds abundantly in orchards and shade trees in and around the towns and settlements throughout the county. Between April 9 and July 16 I counted no less than twenty-four nests of this bird with eggs or young in the towns of Allenhurst, Hinesville and Walthourville, besides several nests in course of construction which were not revisited. One nest was placed among a clump of vines screening the front porch of a residence at Hinesville, and another was built in a small shrub in the front yard of a house in the same town. The remaining nests were distributed among

the shade trees, orchards, and isolated bushes in the vicinity. The nests were composed of twigs, grapevine bark, plant fibre and trash, lined with rootlets. Of the nests noted, sixteen held four eggs each, two held three eggs each, and two contained five eggs each, all in various stages of incubation, while four nests contained four young each. The heights ranged from three to nineteen feet, averaging about five feet. My earliest and latest dates when full complements of eggs were noted, are, respectively, April 9, set of four, and July 16, set of three. Well feathered young were observed in the latter nest on August 6.

35. **Toxostoma rufum.** BROWN THRASHER.—Although fully as abundant in the county as the Mockingbird, the Brown Thrasher is more retiring in habits, showing a preference for secluded localities, and in Liberty County at least, rarely ventures to nest in the immediate vicinity of dwellings. The birds choose as their home environment, brush heaps, thorn thickets and grapevine tangles. They begin nest building slightly earlier than the Mockingbird, as I noted young about one week old on April 18. Eight nests were noted, in widely separated localities. Seven contained four eggs each, and one held three young about one week old, the latter nest being the one noted on April 18, and is my earliest breeding record for the county. My latest date is June 20, when a nest containing four eggs was found. In construction, and materials used, these nests were very similar to those of the Mockingbird, being, however, slightly bulkier and containing more twigs than the nest of the latter species. Heights varied from two to seven feet, averaging four feet.

36. **Thryothorus ludovicianus ludovicianus.** CAROLINA WREN.—This species is present everywhere in the county, nesting in great abundance. They are, however, very secretive in nesting habits, and I am able to record the finding of but three nests. These were built in a variety of situations, the first one being noted on April 15. It was placed four feet from the ground in a natural cavity of an oak stub, and contained five fresh eggs. This nest was constructed entirely of dead pine needles with the exception of the lining, which consisted of a few dried strands of Spanish moss. Another nest, noted May 12, was placed in a depression between two converging roots at the base of a large cypress growing in the heart of a dense swamp. This nest also contained five eggs. The third nest was built in a burnt out "boxing" of a live pine in a heavily timbered district on St. Catherine's island, and contained an incomplete set of three eggs on June 7, evidently a second laying. The two latter nests were bulky affairs, composed of moss, hay, grasses and leaves, lined with hair and feathers.

The Carolina Wren is an early breeder in Liberty County. Five seems to constitute the usual complement of eggs of the first laying, the second consisting usually of four.

37. **Telmatodytes palustris griseus.** WORTHINGTON'S MARSH WREN.—The Marsh Wren is ever associated in my mind with wide stretches of marsh and early morning excursions on numerous rivers and

creeks that thread their way alternately between small heavily wooded hammocks and beautiful islands all covered with undergrowth almost tropical in aspect, and bordered by luxuriant growths of tall marsh grass swaying in the gentle summer breeze. In such an environment the wiry trill of the Marsh Wren is the first bird voice to be heard at the morning awakening. This species breeds numerously in the county, being confined exclusively to salt water marshes. On May 9, among the marshes bordering the islands and hammocks north of St. Catherine's island, I examined many nests containing from one to five eggs. The latter number constitutes the full complement. The nests were globular in shape, with the entrance on the side, and were composed of the blades and stems of the marsh grass. They were placed in the tall grass well out of reach of high tides. This bird constructs many nests which apparently are never occupied, although I am not aware that anyone has carried on observations in one of their colonies sufficiently continuous to prove conclusively that these nests are not used in some way.

A THREE MONTHS' LIST OF THE BIRDS OF PINELLAS COUNTY, FLORIDA.

BY MAJOR CLIFFORD H. PANGBURN, A.R.C.

THE observations upon which the following list is based were made during a period extending from January 22 to April 29, 1918. The region covered included the greater part of Pinellas County, Florida, although most of the time was spent in the southern part of the county around the city of St. Petersburg, and along the keys which separate the Gulf of Mexico from the mainland.

Pinellas County is in the form of a peninsula about seven or eight miles wide at the widest point, and tapering to a blunt end at the southern end. Along the east side is Tampa Bay, on which is located St. Petersburg, a city of about 15,000, which has nearly double that population in the winter. Tampa is about fifty miles distant, up and across the bay.

On the west side of the county lies Boca Ceiga Bay, from which there are a few passes opening into the Gulf of Mexico between the keys. These are for the most part very narrow. The keys them-